



Bill of Materials for the NCV77320 Evaluation Board

Designator (Main Board)	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1, C2, C3, C5, C6, C8, C9, C14, C21, C22, C23, C24, C25, C26, C27, C28, C29	17	128-8255 Capacitor MLC-X7R_0603_100NF_10%_50V; C0603C104K5RAC; KEMET; RoHS=Yes	100nF	10%	0603	KEMET	C0603C104K5RAC	Yes	Yes
C4	1	141-4626 Capacitor MLC-X7R_0603_220NF_10%_25V; C0603C224K3RACTU; KEMET; RoHS=Yes (Repl. for 880-5644)	220nF	10%	0603	KEMET	C0603C224K3RACTU	Yes	Yes
C7, C10	2	301-9846 Capacitor MLC-X7R_0805_330pF_10%_50V; 2238 580 15616; YAGEO; RoHS=Yes	330pF	10%	0805	YAGEO	CC0805KRX7R9BB331	Yes	Yes
C13, C16, C41, C43, C50	5	141-4064 X7R_1210_10uF_10%_25V; C1210X106K3RAC; KEMET; RoHS=Yes	10uF	10%	1210	KEMET	C1210X106K3RAC	Yes	Yes
C15, C17, C18, C30_1, C30_2, C34, C35, C40, C42, C45_1, C45_2, C46, C49, C51	14	301-9949 Capacitor MLC-X7R_0805_100nF_10%_50V; 2238 580 15649; YAGEO; RoHS=Yes	100nF	10%	0805	YAGEO	CC0805KRX7R9BB104	Yes	Yes
C19, C20	2	141-4620 Capacitor MLC-NPO_0603_18PF_5%_50V; C0603C180J5GAC; KEMET; RoHS=Yes	18pF	5%	0603	KEMET	C0603C180J5GAC	Yes	Yes
C32_1, C32_2	2	301-9925 Capacitor MLC-X7R_0805_6.8nF_10%_50V; 2238 580 15634; YAGEO; RoHS=Yes	6.8nF	10%	0805	YAGEO	CC0805KRX7R9BB682	Yes	Yes
C33	1	301-9871 Capacitor MLC-X7R_0805_1nF_10%_50V; 2238 580 15623; YAGEO; RoHS=Yes	1nF	10%	0805	YAGEO	CC0805KRX7R9BB102	Yes	Yes
C36	1	2991554 22uF/16V Tantal	22uF	10%	1411(B)	TANTAL	TPSB226K020T0600	Yes	Yes
C37, C_F1_1, C_F1_2	3	130-1898 Capacitor MLC-X7R_0805_10nF_10%_100V; 08051C103KAZ2A; AVX; RoHS=Yes	10nF	10%	0805	AVX	08051C103KAZ2A	Yes	Yes
C38	1	882-3391 Capacitor 100uF/50V; UUD1H101MNL1GS; NICHICON; RoHS=Yes (repl. for 345-0314)	100uF	20%	SMD	NICHICON	UUD1H101MNL1GS	Yes	Yes
C39, C44	2	335-2067 Capacitor MLC-X7R_0805_1uF_10%_10V; 2238 240 15663; YAGEO; RoHS=Yes	1uF	10%	0805	YAGEO	CC0805KX7R6BB105	Yes	Yes
C47, C48	2	186-7954 Capacitor MLC-X5R_0603_10uF_20%_10V; 0603ZD106MAT2A; AVX; RoHS=Yes	10uF	20%	0603	AVX	0603ZD106MAT2A	Yes	Yes
C52	1	498-737 Capacitor 10uF/16V; TAJB106K016R; AVX; RoHS=Yes (repl. for 967-117)	10uF	10%	1411(B)	AVX	TAJB106K016R	Yes	Yes
C_FS1_1, C_FS1_2	2	718-488 Capacitor MLC-NP0_0805_220PF_5%_50V; 2238 861 15221; YAGEO; RoHS=Yes	220pF	5%	0805	YAGEO	CC0805KRX7R9BB682	Yes	Yes
C_TAU1_1, C_TAU1_2	2	301-9895 Capacitor MLC-X7R_0805_2.2nF_10%_50V; 2238 580 15627; YAGEO; RoHS=Yes	2.2nF	10%	0805	YAGEO	CC0805KRX7R9BB222	Yes	Yes
CON1	1	114-4563 M80-5002042; CONN HEADER VERT 20POS 2MM; HARWIN	20 pin	-	THT	HARWIN	M80-5002042	No	Yes
CON2	1	224-959+224-923 (PK10+PK10) SOCKET, PCB, DC POWER, 2.1MM, 5A, 12V; DC10A+DCPP1; 10pcs package; CLIFF ELECTRONIC COMPONENTS; RoHS=Yes	DC10A	-	THT	CLIFF ELECTRONIC COMPONENTS	FC68148	Yes	Yes
CON3	1	110-6784 SOCKET_BOX 2x5 GOLD plated (match 636-034 SOCKET), high Temperature (PCT); ; HARTING; RoHS=Yes	10 pin	-	THT	HARTING	09 19 510 7324	Yes	Yes
D1, D_VDD2V5, D_VDD3V3, D_VDD5V, D_VDD5V0, D4, D5, D6, D7	9	579-0852 LED DIODE GREEN 20mA, 0805; HSMG-C170; AVAGO TECHNOLOGIES; RoHS=Yes	Green LED	-	0805	AVAGO TECHNOLOGIES	HSMG-C170	Yes	Yes
D2, D8	2	855-4501 LED DIODE RED 20mA, 0805; HSMC-C170; AVAGO TECHNOLOGIES; RoHS=Yes	Red LED	-	0805	AVAGO TECHNOLOGIES	HSMC-C17	Yes	Yes
D3	1	1510725 PESD Series 9.5 V 2.9 pF Bi-Directional Double ESD Protection Diode - SOT-23	TVS diode	-	SOT-23	NEXPERIA	PESD5V0U2BT,215	No	Yes
D9	1	143-1046 MBR140SFT1G; DIODE SCHOTTKY 40V 1A SOD123L	Schottky 40V/1A	-	SOD123L	ONSEMI	MBR140SFT1G	Yes	Yes

D_ESD	1	210-1833 NUP2105LT1G; TVS DIODE 24V 44V SOT23-3	TVS diode	-	SOT-23	ONSEMI	NUP2105LT1G	Yes	Yes
FT1, FT2, FT3, FT4	4	180-0867 PK40; PD.2126G; FEET, STICK ON, 5.8X12.7X12.7, GRY, (made of 1/40); MULTICOMP; RoHS=Yes (Repl. for 116-5066,SJ5018BLACK)	FEET	-	-	MULTICOMP	PD.2126G	Yes	Yes
GND1, GND2, GND3	3	175-319 PK25; SCOPEGND; WIRE BRIDGE, D3082F05; Harwin	GND Probe	-	THT	HARWIN	1753190	Yes	Yes
J1	1	117-7885 USB PANEL SOCKET PCB TYPE B; 2411 02; LUMBERG; RoHS=Yes	USB B	-	THT	LUMBERG	2411 06	Yes	Yes
J2	1	102-2218 SIL HEADER 8 pins LEAD plated, matches 102-3035 SOCKET (made of breakaway SIL32 header) GOLD plated; D01-9923246; HARWIN; RoHS=Yes (repl. for 176-371, 366-5707)	SIL HEADER	-	THT	HARWIN	D01-9923246	Yes	Yes
J3	1	102-2218 SIL HEADER 6 pins LEAD plated, matches 102-3035 SOCKET (made of breakaway SIL32 header) GOLD plated; D01-9923246; HARWIN; RoHS=Yes (repl. for 176-371, 366-5707)	SIL HEADER	-	THT	HARWIN	D01-9923246	Yes	Yes
J4	1	341-8388 + 321-8480 Jumper 3 pole (made of 1x50 pin header), GOLD plated; 5-826629-0; TYCO/AMP; RoHS=Yes (repl. for 973-117)	JUMPER	-	THT	AMP - TE CONNECTIVITY	5-826629-0	Yes	Yes
J5	1	251-7862 IMO20155MH/2, Svorkovnice, Horizontální, Header, 3.5 mm, 6 Cest, 10 A, 250 V, Skrz Desku Pravoúhly; IMO PRECISION CONTROLS	Terminal block	-	THT 3.5 mm	IMO PRECISION CONTROLS	20.155MH/6-E	Yes	Yes
Q1, Q2	2	145-9037 BC847BLT1G; TRANSISTOR NPN; 45V/100mA/300mW, B>100, 100MHZ, 150°C; SOT23; AEC-Q101; ON SEMI; (Repl. for 114-7907)	BC847	-	SOT-23	ONSEMI	BC847ALT1G	Yes	Yes
Q3_1, Q3_2, Q5_1, Q5_2, Q6, Q7	6	263-0310 MUN5335DW1T1G; TRANSISTOR ARRAY NPN+PNP DIGITAL R1=4.7k/R2=47k, 50V/100mA; SOT363; ON SEMI	MUN5335	-	SOT-363	ONSEMI	MUN5335DW1T1G	No	Yes
Q4_1, Q4_2	2	231-7633 MUN5211DW1T1G ; TRANSISTOR ARRAY 2x NPN, DIGITAL R1=10k/R2=10k, 50V/100mA; SOT363; ONSEMI	MUN5211	-	SOT-363	ONSEMI	MUN5211DW1T1G	No	Yes
R1, R5, R17, R18, R39, R40, R48, R52, R55	9	116-0203 RESISTOR MF_0805_10K_0.1W_0.1%_100V, -.55..125°C, 25ppm; PCF0805R-10KBT1; WELWYN; RoHS=Yes	10K	0.1%	0805	WELWYN	PCF0805R-10KBI	Yes - 0.1%	Yes
R2	1	146-9859 RESISTOR MF_0805_10R_0.125W_1%_150V; CRCW080510R0FKEA; AEC-Q200; Vishay; RoHS=Yes (repl. for 911-616)	10R	1%	0805	Vishay	CRCW080510R0FKEA	Yes	Yes
R3	1	213-8907 CRCW0805620RFKEA; RES SMD 620 OHM 1% 1/8W 0805	620R	1%	0805	Vishay	CRCW0805620RFKEA	Yes	Yes
R4, R8, R12, R13, R14, R16, R19, R20, R22, R24, R26, R27, R32, R50, R51, R54, R62, R63	18	244-7587 RESISTOR MF_0805_1K0_0.125W_1%_150V; MCWR08X1001FTL; MULTICOMP; RoHS=Yes (repl. for 933-2383)	1K	1%	0805	MULTICOMP	MCWR08X1001FTL	Yes	Yes
R6, R33, R36	3	923-4454 RESISTOR ARRAY 100R_1206_0.063W_5%; 2350035101010; YAGEO; RoHS=Yes	100R	5%	1206	YAGEO	YC164-JR-07100RL	Yes	Yes
R7	1	146-9918 SMD Chip resistorr, Thick Film, 0805, 330 ohm, CRCW, 150 V, Thick Film	330R	1%	0805	Vishay	CRCW0805330RFKEA	Yes	Yes
R10, R11, R28, R29, R30, R31	6	213-8778 CRCW080527R0FKEA; RES SMD 27 OHM 1% 1/8W 0805	27R	1%	0805	Vishay	CRCW080527R0FKEA	Yes	Yes
R21, R49, R53, R_FS1_1, R_FS1_2	5	244-7672 RESISTOR MF_0805_4K7_0.125W_1%_150V; MCWR08X4701FTL; MULTICOMP; RoHS=Yes (repl. for 933-3266)	4K7	1%	0805	MULTICOMP	MCWR08X4701FTL	Yes	Yes
R23, R41, R45, R_F1_1, R_F1_2	5	233-3538 RESISTOR MF_0805_100K_0.125W_1%_150V; CR0805-FX-1003ELF; Bourns; RoHS=Yes (repl. for 933-2405)	100K	1%	0805	Bourns	CR0805-FX-1003EL	Yes	Yes
R25	1	923-4560 RESISTOR ARRAY 10K_1206_0.063W_5%; 235003510103; YAGEO; RoHS=Yes; alt 108-6512	10K	5%	1206	YAGEO	YC164-JR-0710KL	Yes	Yes
R42, R43	2	109-9786 RESISTOR MF_0805_0R_0.1W_100V; WCR0805-R005JI; WELVYN; RoHS=Yes (repl. for 772-239)	0R	5%	0805	WELVYN	WCR0805-R005JI	Yes	Yes
R44	1	244-7552 RESISTOR MF_0805_100R_0.125W_1%_150V; MCWR08X1000FTL; MULTICOMP; RoHS=Yes (repl. for 933-2375)	100R	1%	0805	MULTICOMP	MCWR08X1000FTL	Yes	Yes
R46_1, R46_2	2	1100137 Resistor 1206_0R_5%_200V_250mW; WCR1206-R005JI; TT Welwyn	0R	5%	1206	WELWYN	WCR1206-R005JI	Yes	Yes
R47	1	156-5375 RESISTOR MFR_MFP_2R2_1W_5%_350V; MFP1-2R2 JI; WELWYN; RoHS=Yes (repl. for 947-4455)	2R2	5%	THT	WELWYN	MFP1-2R2 JI	Yes	Yes
R56_1, R56_2	2	933-3401 RESISTOR MF_0805_56R_0.1W_1%_100V; MC 0.1W 0805 1% 56R; MULTICOMP; RoHS=Yes (repl. for 911-707)	56R	1%	0805	MULTICOMP	MC01W0805156R	Yes	Yes
R57, R58	2	165-2963 CRCW0805240RFKEA; RES SMD 240 OHM 1% 1/8W 0805	240R	1%	0805	Vishay	CRCW0805240RFKEA	Yes	Yes
R_PU1_1, R_PU1_2	2	146-9957 SMD Chip resistor, Thick Film, 0805, 8.2 kohm, CRCW, 150 V	8K2	1%	0805	Vishay	CRCW08058K20FKEA	Yes	Yes
R_PUS1_1, R_PUS1_2	2	165-3018 CRCW080551K0FKEA; RES SMD 51K OHM 1% 1/8W 0805	51K	1%	0805	Vishay	CRCW080551K0FKEA	Yes	Yes
R_TAU1_1, R_TAU1_2	2	244-7686 RESISTOR MF_0805_560R_0.125W_1%_150V; MCWR08X5600FTL; MULTICOMP; RoHS=Yes (repl. for 933-3363; Alt=214-5538)	560R	1%	0805	MULTICOMP	MCWR08X5600FTL	Yes	Yes

Re1	1	108-1658 + 102-3035 RELAY DPDT 12V/12mA; 2342-12-000 + SOCKET(8/32); COTO TECHNOLOGY; RoHS=Yes	12V relay	-	THT	COTO TECHNOLOGY	2342-12-000	No	Yes
SW1, SW3, SW_BOOT	3	380-1287 SWITCH SPNO 6x6mm; FSM2JSMA; TYCO ELECTRONICS; RoHS=Yes (repl. for 380-1240, 0-1437565-7)	Push button	-	SMD	TYCO ELECTRONICS	FSM-2J-SMA	Yes	Yes
SW4	1	160-5474 SWITCH, HALF-PITCH SMD DIP, 4 ways; MCNHDS-04-T; MULTICOMP; RoHS=Yes; (Repl. fro 947-2100)	DIP switch	-	DIP	MULTICOMP	MCDHN-04F-V	Yes	Yes
SW5	1	674-345 SWITCH SLIDE SPDT VERT; 09-03290-01; EAO; RoHS=Yes	Switch	-	THT	EAO	09-03290.01	Yes	Yes
TP1, TP2, TP3, TP4, TP10, TP11, TP12, TP13, TP14, TP26, TP27, TP30, TP34, TP35, TP36, TP37, TP38, TP39, TP40, TP41	20	873-1187 (PK100) TESTPIN 200 SER. HOLE 1.0 YELLOW; 20-313140; VERO; RoHS=Yes (repl. for 385-1552)	Testpin	-	THT 1 mm	VERO	20-313140	Yes	Yes
TP8, VDD2V5, VDD3V3, VDD5V, VDD5V0, VIN	6	266-8701 20-313137...PCB Test Point, Red, Through Hole Mount, 1.02 mm, Phosphor Bronze, Tin Plated Contacts;VERO	Testpin	-	THT 1 mm	VERO	20-313137	Yes	Yes
TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22, TP23, TP31, TP32, TP33	12	873-1179 (PK100) TESTPIN 200 SER. HOLE 1.0 WHITE; 20-313139; VERO; RoHS=Yes	Testpin	-	THT 1 mm	VERO	20-313139	Yes	Yes
TP24, TP25	2	873-1128 (PK100) TESTPIN 200 SER. HOLE 1.0 BLACK; 20-2137; VERO; RoHS=Yes (repl. for 240-333)	Testpin	-	THT 1 mm	VERO	20-2137	Yes	Yes
U1, U3	2	4016967 AD7988-5BRMZ - ADC converter, 16 bit, 500 kSPS, Pseudo Differential, SPI, Single channel, 2.375 V	AD7988-5	-	MSOP-10	ANALOG DEVICES	AD7988-5BRMZ	AD7988-1	Yes
U2	1	OPA211AIDG4, 1.1nV/rHz Noise, Low-Power, Precision Operational Amplifier 8-SOIC -40 to 125	OPA211	-	SOIC-8	Texas Instruments	OPA211AIDG4	No	Yes
U4	1	3612042 NCV4276C, LDO Fixed; INH; IN 40V; OUT 3.3V, 400mA; NCV4276CDT33RKG; ONSEMI; RoHS=YES	NCV4276C	-	DPAK5	ONSEMI	NCV4276CDT33RKG	No	Yes
U5	1	2774744 CAT823YTDI-GT3, Voltage Supervisor with Manual Reset and Watchdog	CAT823	-	SOT23-5	ONSEMI	CAT823YTDI-GT3	No	Yes
U6	1	246-4462 CAT24C02TDI-GT3A; EEPROM SERIAL 2Kb (256x8), SPI, -40...+85C, SOT23; ONSEMI	CAT24C02	-	TSOP-5	ONSEMI	CAT24C02TDI-GT3A	No	Yes
U7	1	250-0475; PIC/DSPIC Microcontroller, Floating Point Unit, PIC32 Family PIC32MZ EF series Microcontrollers	PIC32MZ2048EFM100	-	TQFP-100	MICROCHIP	PIC32MZ2048EFM100-IPF	No	Yes
U8	1	276-2699; ST2378ETTR, 8-bit dual supply 1.71 V to 5.5 V level translator with I/O VCC ±15 kV ESD protection	ST2378ETTR	-	TSSOP-20	STMICROELECTRONICS	ST2378ETTR	No	Yes
U9	1	284-5162; NCV4276C, 400 mA Low-Drop Voltage Regulator, Adjustable	NCV4276C ADJ	-	DPAK5	ONSEMI	NCV4276CDTADJRKG	No	Yes
U10	1	298-3617 ISL60002 Series Precision 2.5 V 7 mA 0.15 % FGA Voltage Reference - SOT-23-3; Renesas	ISL60002	-	SOT-23	RENESAS	ISL60002DAH333Z-TK	Yes	Yes
U11	1	289-5776 - NCV8114, 300 mA CMOS Low Dropout, 2.5V Regulator, TSOP-5	NCV8114	-	TSOP-5	ONSEMI	NCV8114AN250T1G	Yes	Yes
U12	1	262-7989 NCP1117, LDO Fixed; Out: 5V, 1A; IN: max 20V; SOT223; ONSEMI; RoHS=Yes	NCP1117	-	SOT223	ONSEMI	NCP1117LPST50T3G	Yes	Yes
U13	1	300-9057 LMT86, 2.2V-Capable, 10 uA Analog Output Temperature Sensor in SC70 and TO-92 5-SC70 -50 to 150;	LMT86	-	SC70	Texas Instruments	LMT86DCKT	No	Yes
W1, W3, W_VDD5V, W_VIO	4	341-8388 + 321-8480 Jumper 1x2, made of 50 way SIL header, GOLD plated; 5-826629-0; RoHS=yes (repl. for 973-117)	JUMPER	-	THT	AMP - TE CONNECTIVITY	5-826629-0	Yes	Yes
X1	1	164-0934 Xtal, 24 MHz, SMD, 5mm x 3,2mm, 30 ppm, 12 pF, 30 ppm, MJ Series	XTal 24 MHz	-	SMD 3.2x5mm	EUROQUARTZ	24.000MHZMJ/30/30/40/12PF	Yes	Yes
ZD1	1	109-7203 ZENER DIODE 5.6V/500mW; BZV55-C5V6; NEXPERIA; RoHS=Yes (repl. for 305-0944)	Zener 5V6	-	SOD-80C	NEXPERIA	BZV55-C5V6,115	Yes	Yes
ZD2, ZD3, ZD5_1, ZD5_2	4	109-7200 ZENER DIODE 4.7V/500mW; BZV55-C4V7; NEXPERIA; RoHS=Yes	Zener 4V7	-	SOD-80C	NEXPERIA	BZV55-C4V7,115	Yes	Yes
ZD4, ZD7, ZD8	3	955-0860 DIODE TVS SMA 400W Vb=26.7V; SMAJ24A; VISHAY GENERAL SEMICONDUCTOR; RoHS=Yes	TVS 24V	-	DO-214AC	VISHAY	SMAJ24AE361	Yes	Yes
ZD6	1	955-0801 DIODE TVS SMA 400W Vb=13.3V; SMAJ12A; VISHAY GENERAL SEMICONDUCTOR; RoHS=Yes	TVS 12V	-	DO-214AC	VISHAY	SMAJ12A-E3/61	Yes	Yes